

surface 30 is at an angle of  $91^\circ$  with respect to axis 42. In assembly, a ball-stop pad 74 (FIGS. 1 and 7) of foam rubber or the like is secured to ball-rest surface 30. In addition to protecting the net from abrasion as described above, recessed shoulder 70, particularly combined with taper angle 72, greatly facilitates ball control during one-handed cradling. As shown in FIG. 8, for a given net pocket angle 76, recessed shoulder 70 allows the lacrosse ball 78 to nest more deeply in the pocket of net 26 than in the case of prior art constructions of the type illustrated in FIG. 9 without the recessed shoulder. In the preferred embodiment of the invention illustrated in the drawings, shoulder 70 is recessed 84 (in a direction parallel to axis 42) approximately 0.25 inches (0.25 plus or minus 0.04 inches) from ball-rest surface 30. Width 86 of shoulder 70 is preferably about 0.5 inches (+0.0, -0.01 inches), with the total thickness of the head including shoulder 70 being not more than two inches.

We claim:

1. A lacrosse head that comprises:

an open frame having a base with a concave interior surface defining a ball rest, a pair of sidewalls diverging from said base and a lip interconnecting said sidewalls remotely of said base,

means carried by said frame for securing a lacrosse net along a back side of said frame, leaving an opposing front side of said frame open for receiving lacrosse balls, and

means exteriorly projecting from said base for attachment of a handle so as to define a handle/head axis, said front side of said frame at said base adjacent to said attachment means defining a plane parallel to said axis,

both said front side and said back side of said sidewalls curving away from said plane and then back toward said plane from said base toward said lip so as to impart a curved scoop-like geometry to said head when viewed in side elevation.

2. The head set forth in claim 1 wherein both said front side and said back side of said sidewalls have a maximum spacing from said plane at about the midpoint of said sidewalls between said base and said lip.

3. The head set forth in claim 2 wherein said front side and said back side of said sidewalls each curve at substantially constant radius throughout at least one-half of their lengths between said base and said lip.

4. The head set forth in claim 3 wherein curvature of said sidewalls and length of said sidewalls are such that said back sides of said sidewalls return at said lip to a spacing from said plane equal to or less than spacing of said back sides from said plane adjacent to said base.

5. The head set forth in claim 4 wherein thickness of said sidewalls between said front and back sides thereof does not exceed two inches.

6. The head set forth in claim 3 wherein said substantially constant radius is about 9.86 inches.

7. The head set forth in claim 3 wherein said sidewalls are of uniform thickness between said front and back sides thereof for at least about one-half of the overall length of said sidewalls.

8. The head as set forth in claim 7 wherein said sidewalls are of uniform thickness between said front and back sides for about three-quarters of the overall length of said sidewalls.

9. The head set forth in claim 1 wherein said lip has an exterior surface remote from said base that defines a ground contact plane at an angle of at least  $40^\circ$  to said axis.

10. The head set forth in claim 9 wherein said ground contact plane is at an angle of not greater than  $65^\circ$  to said axis.

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6

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11. The head set forth in claim 10 wherein said ground contact plane is at an angle of  $45^\circ$  to said axis.

12. The head set forth in claim 11 wherein said lip has an interior surface that slopes from said back side to said front side at an angle of  $47^\circ$  to said axis.

13. The head set forth in claim 9 wherein said lip is of curved construction outwardly of said handle between said sidewalls.

14. The head set forth in claim 13 wherein said lip has a substantially uniform radius of curvature between said sidewalls.

15. The head set forth in claim 14 wherein radius of curvature of said lip at said back side of said lip is greater than radius of curvature of said lip at said front side of said lip.

16. The head set forth in claim 15 wherein said radius of curvature of said lip at said front side of said lip is at least four inches.

17. The head set forth in claim 1 wherein said concave interior surface of said base is at an obtuse angle to said axis.

18. The head set forth in claim 1 wherein said base has a concave shoulder at said back side that is recessed with respect to said concave interior surface of said base.

19. The head set forth in claim 18 wherein said net-securing means at said base are disposed in said shoulder.

20. The head set forth in claim 19 wherein said concave interior surface of said base is at an obtuse angle to said axis.

21. The head set forth in claim 20 wherein said obtuse angle is about  $91^\circ$ .

22. The head set forth in claim 21 wherein said shoulder is recessed more than one-quarter of an inch with respect to said curved interior surface of said base.

23. The head set forth in claim 1 wherein said handle-attachment means comprises a hollow socket projecting from said base for receiving the handle and strengthening ribs integral with said frame extending from said sidewalls to an end of said socket remote from said base.

24. The head set forth in claim 1 wherein said sidewalls are interiorly convex for about one-half of their lengths adjacent to said base and interiorly concave for about one-half of their lengths adjacent to said lip.

25. A lacrosse head that comprises:

an open frame having a base with a concave interior surface defining a ball rest, a pair of sidewalls diverging from said base and a lip interconnecting said sidewalls remotely of said base.

means carried by said frame for securing a lacrosse net along a back side of said frame, leaving the front side of said frame open for receiving a lacrosse ball, and

means exteriorly projecting from said base for attachment of a handle so as to define a handle/head axis,

said lip having an exterior surface remote from said base that defines a ground contact plane at an angle of at least  $40^\circ$  to said axis, said front side of said frame at said base adjacent to said attachment means defining a plane parallel to said axis, both said front side and said back side of said sidewalls curving away from said plane and then back toward said plane from said base toward said lip so as to impart a curved scoop-like geometry to said head when viewed in side elevation.

26. The head set forth in claim 25 wherein said ground contact plane is at an angle of not greater than  $65^\circ$  to said axis.

27. The head set forth in claim 26 wherein said ground contact plane is at an angle of  $45^\circ$  to said axis.

28. The head set forth in claim 25 wherein said lip has an interior surface that slopes from said back side to said front side at an angle of  $47^\circ$  to said axis.

7

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29. The head set forth in claim 25 wherein said lip is of curved construction outwardly of said handle between said sidewalls.

30. The head set forth in claim 29 wherein said lip has a substantially uniform radius of curvature between said sidewalls.

31. The head set forth in claim 30 wherein radius of curvature of said lip at said back side is greater than radius of curvature of said lip at said front side.

32. The head set forth in claim 31 wherein said radius of curvature of said lip at said front side is at least four inches.

33. The head set forth in claim 25 wherein both said front side and said back side of said sidewalls have a maximum spacing from said plane at about the midpoint of said sidewalls between said base and said lip.

34. The head set forth in claim 33 wherein said front side and said back side of said sidewalls each curve at substantially constant radius throughout at least one-half of their lengths between said base and said lip.

35. The head set forth in claim 34 wherein curvature of said sidewalls and lengths of said sidewalls are such that said back sides of said sidewalls return at said lip to a spacing from said plane equal to or less than spacing of said back sides from said plane adjacent to said base.

36. The head set forth in claim 35 wherein said sidewalls are of uniform thickness between said front and back sides thereof for at least about one-half of the overall length of said sidewalls.

37. The head set forth in claim 36 wherein said sidewalls are of uniform thickness between said front and back sides for about three-quarters of the overall length of said sidewalls.

38. The head set forth in claim 25 wherein said base has a concave shoulder at said back side that is recessed with respect to said concave interior surface of said base.

39. The head set forth in claim 38 wherein said net-securing means at said base are disposed in said shoulder.

40. The head set forth in claim 39 wherein said concave interior surface of said base is at an obtuse angle to said axis.

41. The head set forth in claim 40 wherein said obtuse angle is about  $91^\circ$ .

42. A lacrosse head that comprises:

an open frame having a base with a concave interior surface defining a ball rest, a pair of sidewalls diverging from said base and a lip interconnecting said sidewalls remotely of said base,

means carried by said frame for securing a lacrosse net along a back side of said frame, leaving the front side of said frame open for receiving lacrosse balls, and

means exteriorly projecting from said base for attachment of a handle so as to define a handle/head axis,

said base having a concave shoulder at said back side that is recessed with respect to said concave interior surface

8

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of said base, said net-securing means at said base being disposed in said shoulder.

43. The head set forth in claim 42 wherein said concave interior surface of said base is at an obtuse angle to said axis.

44. The head set forth in claim 43 wherein said obtuse angle is about  $91^\circ$ .

45. The head set forth in claim 44 wherein said shoulder is recessed more than one-quarter of an inch with respect to said curved interior surface of said base.

46. The head set forth in claim 42 wherein said front side of said frame at said base adjacent to said attachment means defines a plane parallel to said axis, and wherein both said front side and said back side of said sidewalls curve away from said plane and then back toward said plane from said base toward said lip so as to impart a curved scoop-like geometry to said head when viewed in side elevation.

47. The head set forth in claim 46 wherein both said front side and said back side of said sidewalls have a maximum-spacing from said plane at about the midpoint of said sidewalls between said base and said lip.

48. The head set forth in claim 47 wherein said front side and said back side of said sidewalls each curve at substantially constant radius throughout at least one-half of their lengths between said base and said lip.

49. The head set forth in claim 48 wherein curvature of said sidewalls and length of said sidewalls are such that said back side of said sidewalls returns at said lip to a spacing from said plane equal to or less than spacing of said back side from said plane adjacent to said base.

50. The head set forth in claim 42 wherein said lip has an exterior surface remote from said base that defines a ground contact plane at an angle of at least  $40^\circ$  to said axis.

51. The head set forth in claim 50 wherein said ground contact plane is at an angle of not greater than  $65^\circ$  to said axis.

52. The head set forth in claim 51 wherein said ground contact plane is at an angle of  $45^\circ$  to said axis.

53. The head set forth in claim 52 wherein said lip has an interior surface that slopes from said back side to said front side at an angle of  $47^\circ$  to said axis.

54. The head set forth in claim 50 wherein said lip is of curved construction outwardly of said length between said sidewalls.

55. The head set forth in claim 54 wherein said lip has a substantially uniform radius of curvature between said sidewalls.

56. The head set forth in claim 55 wherein said radius of curvature of said lip at said back side is greater than radius of curvature of said lip at said front side.

57. The head set forth in claim 56 wherein said radius of curvature of said lip at said front side is at least four inches.

Pub 101 → 58. ~~A lacrosse head, comprising:~~  
an open frame having a base with a concave interior surface defining a ball rest, a pair of sidewalls diverging from said base and a lip interconnecting said sidewalls remotely of said base;

9

means carried by said frame for securing a lacrosse net along a back side of said frame, leaving an opposing front side of said frame open for receiving lacrosse balls; and

a projection extending exteriorly from said base for attachment of a handle so as to define a handle/head axis, said front side of said frame at said base adjacent to said attachment means defining a plane parallel to said axis;

said front side of said sidewalls curving away from said plane from said base toward said lip so as to impart a curved geometry when viewed in side elevation.

59. The head set forth in claim 58 wherein said back side of said sidewalls curves away from said plane from said base toward said lip so as to impart a curved geometry when viewed in side elevation.

60. The head set forth in claim 59 wherein said front side and said back side of said sidewalls curve back toward said plane toward said lip when viewed in side elevation.

61. The head set forth in claim 59, wherein said front and said back side of said sidewalls each curve at substantially constant radius away from said base toward said lip.

62. The head set forth in claim 61, wherein said sidewalls are of uniform thickness between said front and back sides thereof for about one-half of the overall length of said sidewalls.

63. The head set forth in claim 58 wherein said lip has an exterior surface remote from said base that defines a ground contact plane at an angle of at least 40° to said axis.

64. The head set forth in claim 58, wherein said base has a concave shoulder at said back side that is recessed with respect to said concave interior surface of said base.

65. The head set forth in claim 64, wherein said net-securing means at said base are disposed in said shoulder.

66. The head set forth in claim 65, wherein said concave interior surface of said base is at an obtuse angle to said axis.

67. The head set forth in claim 66, wherein said shoulder is recessed at least one-quarter of an inch with respect to said curved interior surface of said base.

68. A head for a lacrosse stick comprising:  
an open frame having a base with a concave interior surface defining a ball rest, a pair of sidewalls diverging from said base and a lip interconnecting said sidewalls remotely of said base;

means carried by said frame for securing a lacrosse net along a back side of said frame, leaving the front side of said frame open for receiving a lacrosse ball; and

a projection extending from said base for attachment of a handle so as to define a handle/head axis;

said base having a front side edge adjacent said projection for defining a plane that is offset from and parallel to said handle/head axis;

at least a portion of said front side of said sidewall being offset from said plane.

71-69. The head set forth in claim 68 wherein said sidewalls are of uniform thickness between said front and back sides thereof for about one-half of the overall length.

73-70. The head set forth in claim 68 wherein said lip has an exterior surface remote from said base that defines a ground contact plane at an angle of at least 40° to said axis.

73-71. The head set forth in claim 68 wherein said base has a concave shoulder at said back side that is recessed with respect to said concave interior surface of said base.

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~~74~~ ~~72~~ The head set forth in claim ~~72~~ wherein said  
~~75~~ ~~72~~ net-securing means at said base are disposed in said shoulder.

~~75~~ ~~72~~ The head set forth in claim ~~72~~ wherein said  
~~75~~ ~~72~~ concave interior surface of said base is at an obtuse angle to said  
~~75~~ ~~72~~ axis.

~~76~~ ~~73~~ The head set forth in claim ~~73~~ wherein said  
~~76~~ ~~73~~ shoulder is recessed at least one-quarter of an inch with respect to  
~~76~~ ~~73~~ said curved interior surface of said base.

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